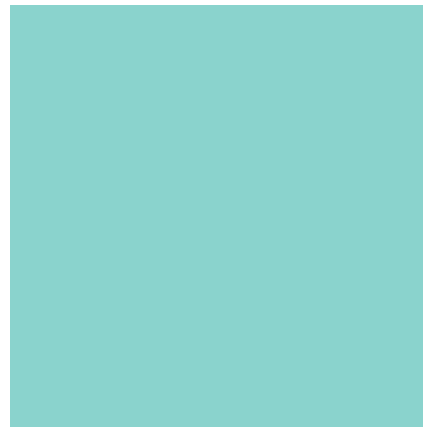




# Ergo Tips for Earth Sciences Division Fieldwork



**Facilitated by  
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# Earth Sciences Division Fieldwork is Diverse



# Fieldwork Ergo Hazards

- Moving/carrying equipment over 20 pounds
- Repetitive activities
- Reaching to high/ low work heights
- Static/awkward postures
  - Such as: prolonged forward-bending
- Moderate lifting
- Moving/carrying equipment for long periods of time



These hazards are identified in JHA for fieldwork



# Fieldwork Ergo Controls

- Weight will be tested by lifting or sliding one corner.
- Hand truck, or furniture dolly will be used when necessary.
- Multiple personnel will be present at all times to assist in lifting if necessary.
  - Use 'Buddy system'
- Test the weight by lifting. Can you lift the load safely, or is it a 2- or more person lift? If there's any doubt, ask for help.
- Take frequent breaks from activities involving holding, moving or walking equipment on ground if discomfort is felt.



These controls are identified in the JHA for fieldwork



What are your biggest ergo risks when doing fieldwork?



What have you already figured out to reduce your ergo risks when doing field work?



# Understanding Ergo Risk Factors

A risk factor is a work pattern or condition that increases the chances that problems will occur.

1. Repetitive Motion  
(e.g. lifting, carrying, and bending)
2. Sustained/ Stationary Positions  
(e.g. holding your arms or back unsupported for long periods, prolonged sitting/standing)
3. Awkward postures/motions  
(e.g. reaching or leaning forward, crouching, stooping, working with arms extended, twisting)
4. Insufficient rest breaks  
(e.g., working more than 1 hour without a break, working long hours to meet a project deadline)





# Ergo Tips for Keeping Your Body Safe During Fieldwork



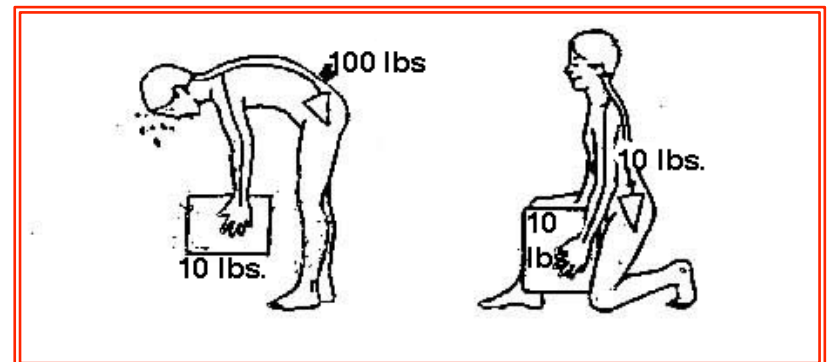
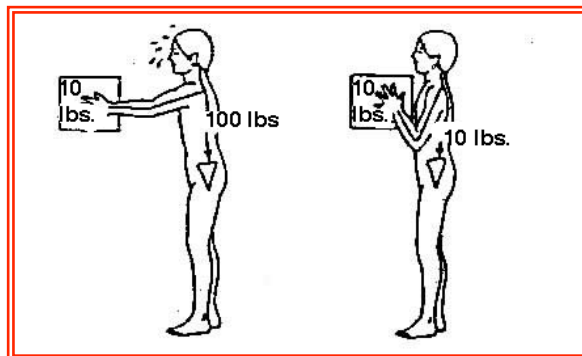
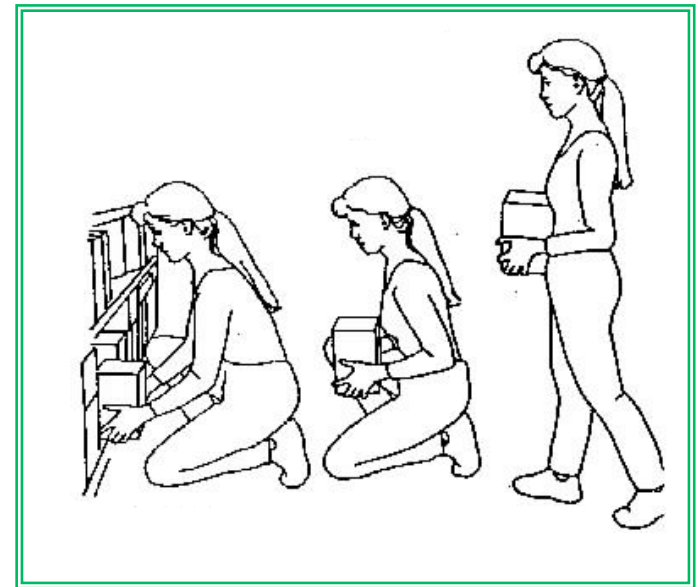
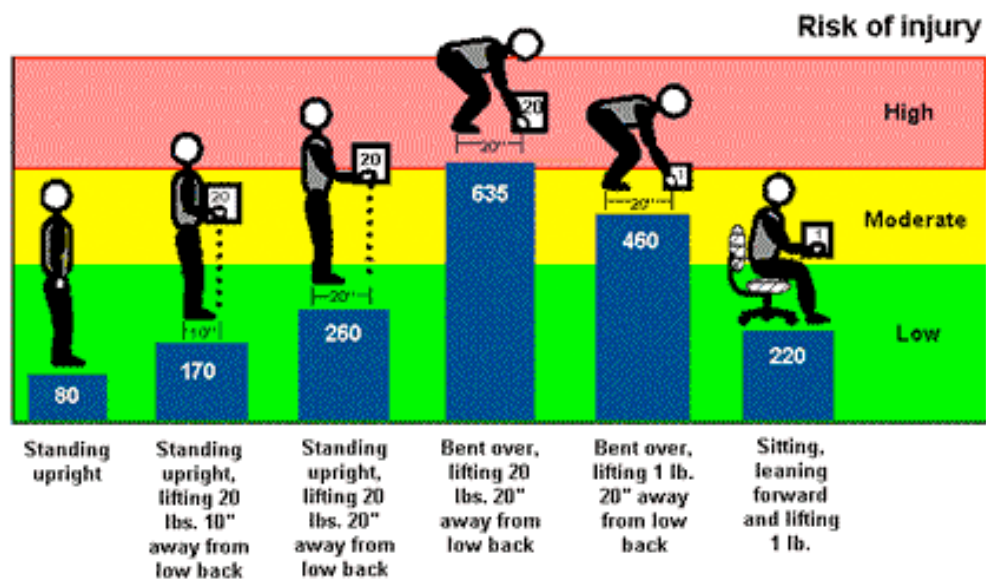
# Don't lift or carry in the first place



**The #1 way to protect your back is to not manually lift objects...  
this should be the first choice**

# Keep it close

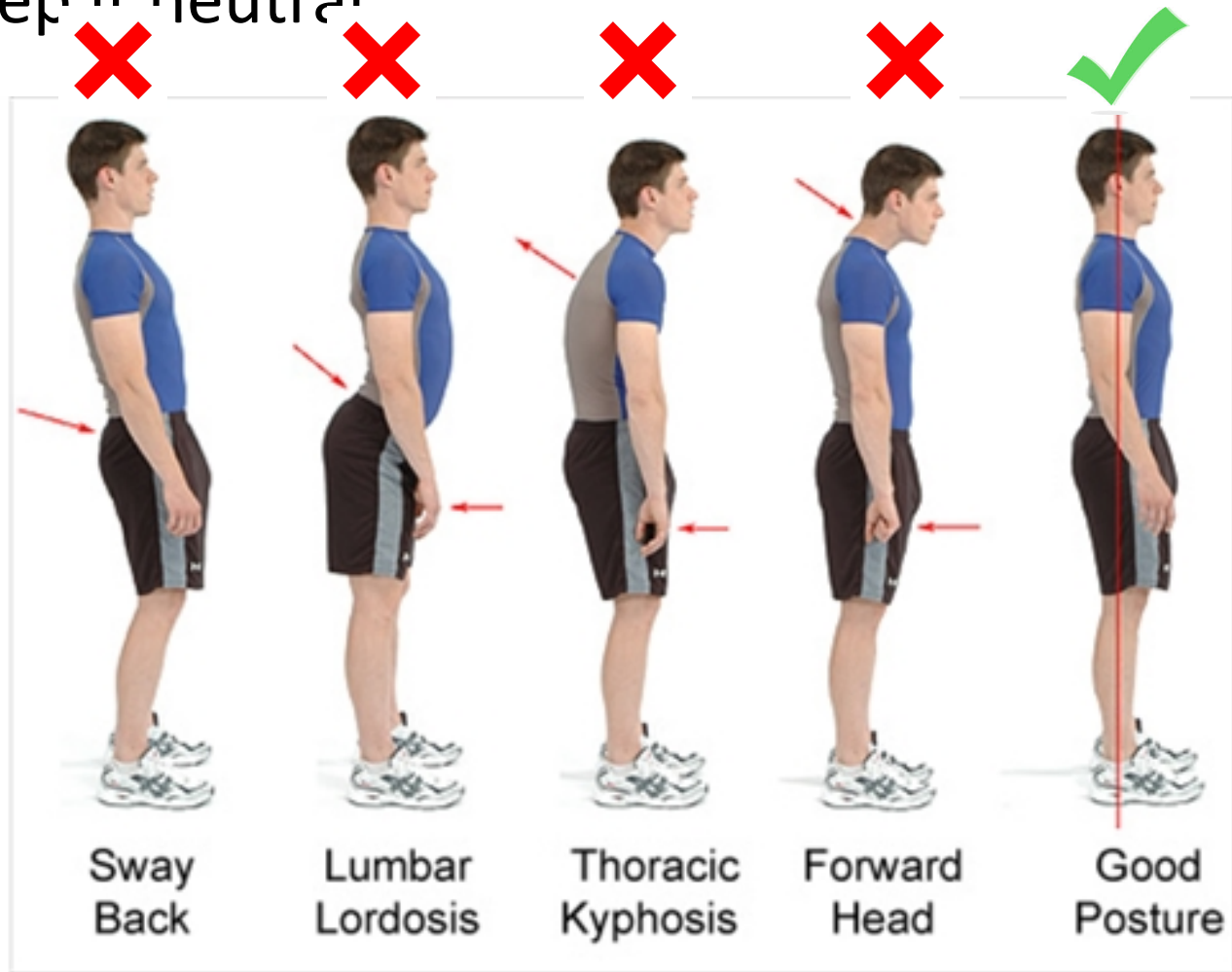
Pounds of compressive force on lower back



**Moment arm= farther object away  
from center of gravity, the greater the force on the body**

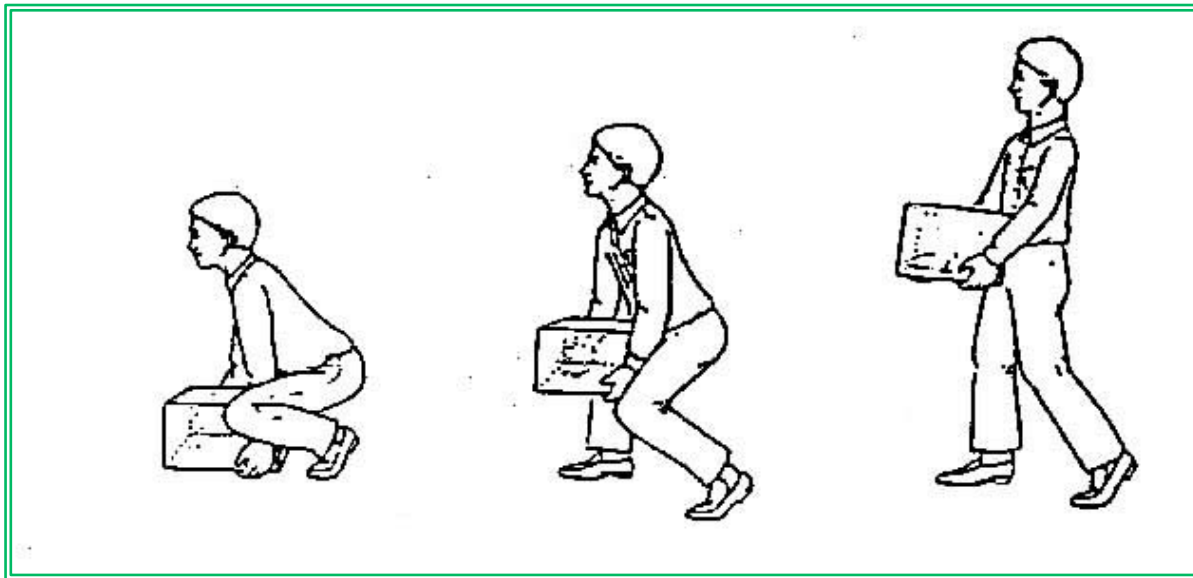


Keep it neutral!



**Ears over shoulders, shoulders over hips, hips over knees  
Do not bend, rotate or twist with the load in hands !**

# Keep your head up



**Keeps your spine aligned!**

# Give a tip for better grip and posture before lifting



**Back injury symptoms are often spontaneous or gradual  
Prevention and protection are the keys to keeping your back safe!**



# Use a golfer's kick



**Injuries can occur when the body cannot repair itself  
Prevention and protection are the keys to keeping your back safe!**

# Build a bridge



**85% of back injuries have no known cause**

**Prevention and protection are the keys to keeping your back safe!**

# Test the load



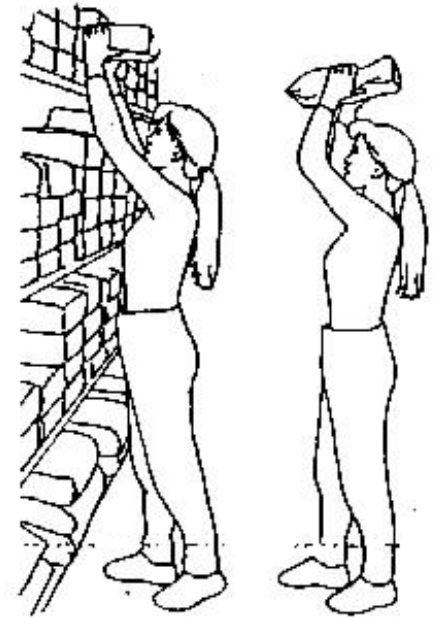
**Give an object a light kick... if it does not move you should not attempt to lift it!**



Can you spot  
good and bad  
techniques?



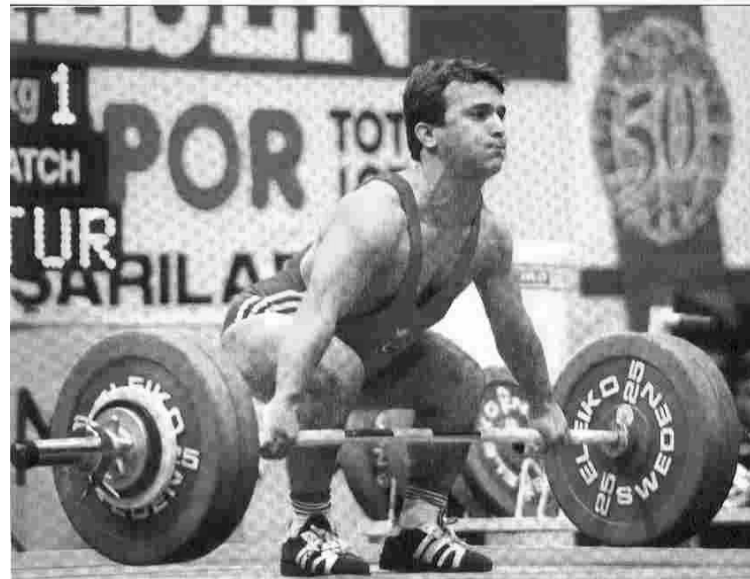
1



2



3



4

## Best defenses

- Think, plan, prepare, use tools, tell others and ask for help
- Use your flexibility, especially in legs
- Use your strength, especially in the core
- Stretch in the opposite position you were just in



The Power Lift = 20% knees/80% hips

# Ergonomics of Lifting

**DON'T LIFT ANYTHING OVER 50 LBS WITHOUT ASSISTANCE!!**

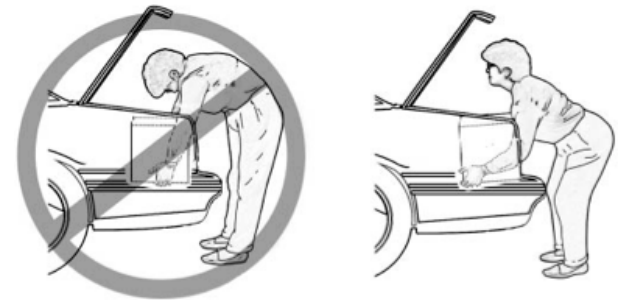


## 1. Assess the situation

- How far will you have to carry the load? Is the path clear?
- Once the load is lifted, will it block your view?
- Can the load be broken down into smaller parts?

## 2. Size up the load

- Test the weight by kicking object or sliding one corner (or look inside)
- If it is too heavy or awkward, **STOP** and get help!
- Can you use a mechanical lift, hand truck, or other equipment to help reduce the load?
- Can you handle the load safely, or is it a 2-person lift? If there's any doubt, **ASK FOR HELP.**



## 3. Use good lifting techniques

- Get close to the load.
- Get a good handhold: add straps or other handgrips if needed.
- Bend knees + hips: keep the normal inward curve in your back.
- Avoid twisting your spine: pivot with your feet to turn.
- Avoid reaching away from the body

